Ring-necked Pheasant Status in Michigan, 2013

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ABSTRACT

Several surveys are conducted each year to monitor ring-necked pheasant (*Phasianus colchicus*) and northern bobwhite quail (*Colinus virginianus*) populations, including hunter cooperator surveys and spring breeding surveys. Hunter records were available from 19 cooperators, who hunted 286 combined hours in 2012. The average number of rooster pheasants flushed per hour by cooperators (0.6) increased 20% compared to flush rates from 2011 (0.5). Pheasant mail carrier brood surveys were conducted statewide along 686 survey routes in July and August 2013. Mail carriers observed an average of 0.19 broods per 10 carrier-days. Pheasant broods contained an average of 3.7 chicks. Comparison between 2012 and 2013 surveys indicated that the increases in the brood index from 0.13 broods per 10 carrier-days in 2012 to 0.19 in 2013 was not statistically significant (t=0.2627, P=0.820).

INTRODUCTION

Pheasant (*Phasianus colchicus*) and northern bobwhite quail (*Colinus virginianus*) are popular game birds associated with grasslands and agricultural areas primarily in southern Michigan. About 27,450 Michigan hunters pursue pheasants statewide in 2010 (Frawley 2010). Hunters spend an average of 3 to 4 days hunting pheasants in 2010 and harvested over 27,000 pheasant in Michigan in 2010 (Frawley 2010).

The Michigan Department of Natural Resources (DNR) annually monitors pheasant distribution and abundance using summer brood surveys and harvest surveys. Harvest is monitored using mail surveys of randomly selected small game license buyers and a separate survey of volunteer cooperators. From 1949 through 2002, pheasant crowing surveys were also conducted each spring. However, in 2003 crowing surveys were discontinued because trend information could be obtained through summer brood surveys. Also, the introduction of Sichuan pheasants (*P.c. strauchii*) to Michigan during the mid-1980's complicated interpretation of crowing survey results because Sichuan pheasants crowed less frequently than pheasant subspecies previously established in Michigan (Luukkonen et al. 1997).

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METHODS

Pheasant Mail Carrier Brood Survey

Cooperating rural mail carriers conduct the pheasant brood survey during a 2 week period from late July through early August. Mail carriers stationed at post offices in southern Michigan record the number of pheasant broods, chicks, and lone hens observed each day along their mail delivery routes during the survey period. An index of pheasant brood abundance is calculated as the number of broods observed per 10 carrier-days (1 mail carrier observing 1 day = 1 carrier-day). In Michigan, the brood index has been a good indicator of fall pheasant abundance and harvest (Luukkonen 1998*a*).

Pheasant/Quail Hunter Cooperator and Mail Surveys

Cooperator surveys rely on a group of volunteer hunters who record numbers of hours hunted and pheasant and quail flushed each day. Data obtained from cooperating hunters are summarized as the number of pheasant and quail flushed per hour of hunting. Although final estimates of hunting effort and harvest come from a mail survey of randomly selected hunters, flush rate surveys from pheasant cooperators provide an early indication of harvest. Hunters may participate in the cooperator survey by contacting the Lansing Wildlife Division office or by printing and completing the cooperator form which is available at DNR - Pheasant/Quail Cooperators.

RESULTS

Pheasant Mail Carrier Brood Survey

In 2013, mail carriers returned 686 useable survey forms. Comparison of identical routes run between 2012 and 2013 surveys revealed no statistically significant changes in the brood index ($t=-0.227$, $P=0.820$). In 2013, mail carriers observed 0.19 broods per 10 carrier-days; in 2012 they observed 0.13 (Figure 1 and Appendix A). Mail carriers observed an average of 0.22 broods per ten carrier-days on all routes in 2013. There were also no statistically significant changes in the number of chicks observed per brood ($t=-1.84$, $P=0.06$) between 2012 and 2013 identical routes. In 2013 mail carriers observed 3.7 chicks per brood; in 2012 they observed 4.4 chicks per brood.

Pheasant/Quail Hunter Cooperator and Mail Surveys

Records were available from 19 cooperators, who hunted over 286 combined hours in 2012. Cooperators flushed an average of 0.6 roosters per hour and 1.1 hens per hour while hunting. These flush rates are slightly higher than flush rates of 0.5 roosters and 0.6 hens per hour reported in 2011. The highest average pheasant flush rates were reported in central Lower Michigan and in the thumb region in 2012 (Appendix B).

Estimates of hunter harvest indicate approximately 27,224 pheasants were harvested during about 106,829 hunter-days (1 individual hunting during a day equals 1 hunter-day) in 2010 (Frawley 2010). Nearly 27,450 hunters hunted pheasants in 2010, with approximately half of the estimated hunters hunted on private lands only (Frawley 2010).

DISCUSSION

The decline of pheasant populations in Michigan has been well documented (Figure 1). Ring-necked pheasants, bobwhite quail, and other grassland species have declined on Michigan Breeding Bird Survey routes during the period 1966-2011 (Sauer et al. 2011) as well as on DNR survey routes. Data from DNR breeding indices over the past 10 years indicate pheasant abundance has been relatively stable, however, much reduced from historic highs of abundance during the 1950's.

Factors such as changes in agricultural practices, land use and the regional climate may have contributed to the pheasant decline. Areas such as southeastern Michigan, which once contained some of the best pheasant habitat in the state, have experienced extensive human development and loss of grasslands. Additionally, pheasant abundance appears to decline as the amount of tree cover exceeds about 10% of the landscape (Luukkonen 1988*b*). The amount of forest cover in southern Michigan increased by about 40,000 acres per year from 1980 to 1993, which may have been a major contributing factor in the decline of pheasants (Luukkonen 1988*b*).

Regional Midwestern States (Minnesota, Iowa and North Dakota) have reported adverse weather conditions having played a key role on overwinter pheasant survival. In Minnesota, "Conditions for production of young were poor due to extend cold" (Curtis 2013). In Iowa, "The spring of 2013 was the wettest and coldest ever experienced by the population" (Bogenchutz, et al. 2013). In addition to the adverse weather conditions, North Dakota suffered decreased brood numbers due to "continued land use changes" (Kohn 2013).

Belyea (1991) noted that state and federal land management programs have not reversed the downward trend of pheasant numbers. However, private land initiatives implemented by the DNR, Natural Resources Conservation Service, and private conservation organizations may prove beneficial to landowners wishing to improve habitat conditions for pheasants (Sargent and Carter 1999). The implementation of Michigan's Conservation Reserve Enhancement Program (CREP) may positively impact pheasant populations as well as other species. Under this program, private landowners in 3 priority watersheds agree to enroll eligible lands in the program for 10 to15 years and establish prescribed conservation practices such as filter strips, wetland restoration, wetland creations, windbreaks, and riparian buffers. Approximately 73,274 acres are currently enrolled in this program, and more acres are being enrolled (USDA, FSA & EPAS 2013). Because pheasant populations seem to respond to habitats on a broad, landscape scale, habitat improvements made on a few isolated sites are often ineffective in increasing pheasant abundance (Luukkonen 1998*b*). The watershed scale of CREP may influence pheasant abundance to increase due to the habitat changes made through this program. For more information about this program, please see MDARD - CREP.

In 2011, Michigan Department of Natural Resources along with our conservation partners kicked off The Pheasant Restoration Initiative to help facilitate a revitalization of Michigan pheasants. The purpose of this initiative is to help landowners in southern Michigan create and enhance pheasant habitat. By forming local 'pheasant cooperatives," landowners can receive assistance with technical advice and planning, management projects. For more information and how to get involved, visit DNR - Ring-necked Pheasant.

2013 Hunting Season Forecast

Pheasant

Midwest regional states showed impacts on the pheasant population from the adverse weather conditions of extended cold weather and record a high wet spring. The State of Michigan had similar weather events, but weather conditions were not as severe during the nesting and brood rearing period. The 2013 results showed chicks per brood were the lowest in ten years, but broods per ten carrier-days were the highest since 2004. These 2013 results, suggest a higher number of hens have broods with lower than average number of chicks per brood and that the extended cold and wet conditions may have impacted brood size.

The 2013 pheasant season is expected to be similar to last year. Some of the best pheasant habitat is located on private lands. Hunters are encouraged to contact private landowners prior to the fall hunting season to gain access to these areas. Counties with some of the highest pheasant numbers include Ingham, Ionia, Hillsdale, Huron, Lenawee, Livingston, Montcalm and Tuscola. Idle fields and warm season grasses adjacent to agriculture lands are prime areas to look for pheasants. Late season hunters should concentrate their efforts in dense grasslands adjacent to cattail and shrub wetlands near picked corn and bean fields.

The Michigan Pheasant Restoration Initiative aims to create small game hunting opportunities on both public and private lands, increase wildlife populations, improve hunter satisfaction and help Michigan's economy. Landowners can get involved – and can get technical and financial assistance – by forming cooperatives to create and enhance pheasant habitat. Bringing back quality pheasant hunting to Michigan is one way the DNR plans to create world-class recreational opportunities with funding from hunting and trapping license sales.

While pheasant numbers are far below the historical high levels of the 1950s and 1960s, pheasants still are widely distributed in southern Lower Michigan and in some areas of the Upper Peninsula (Belyea 1991). Some of the highest pheasant numbers are reported in the central and thumb regions of the State (Appendix B).

Pheasant season is open from October 10-31 in the Upper Peninsula; October 20-November 14 in the Lower Peninsula. The bag limit is two male pheasants per day, four in possession. The late pheasant season in part of Zone 3 will be open from December 1-January 1 with a bag limit of two male pheasants, four in possession. Information on zone boundaries may be found at DNR - Pheasant Seasons or in the 2013 Michigan Hunting and Trapping Guide.

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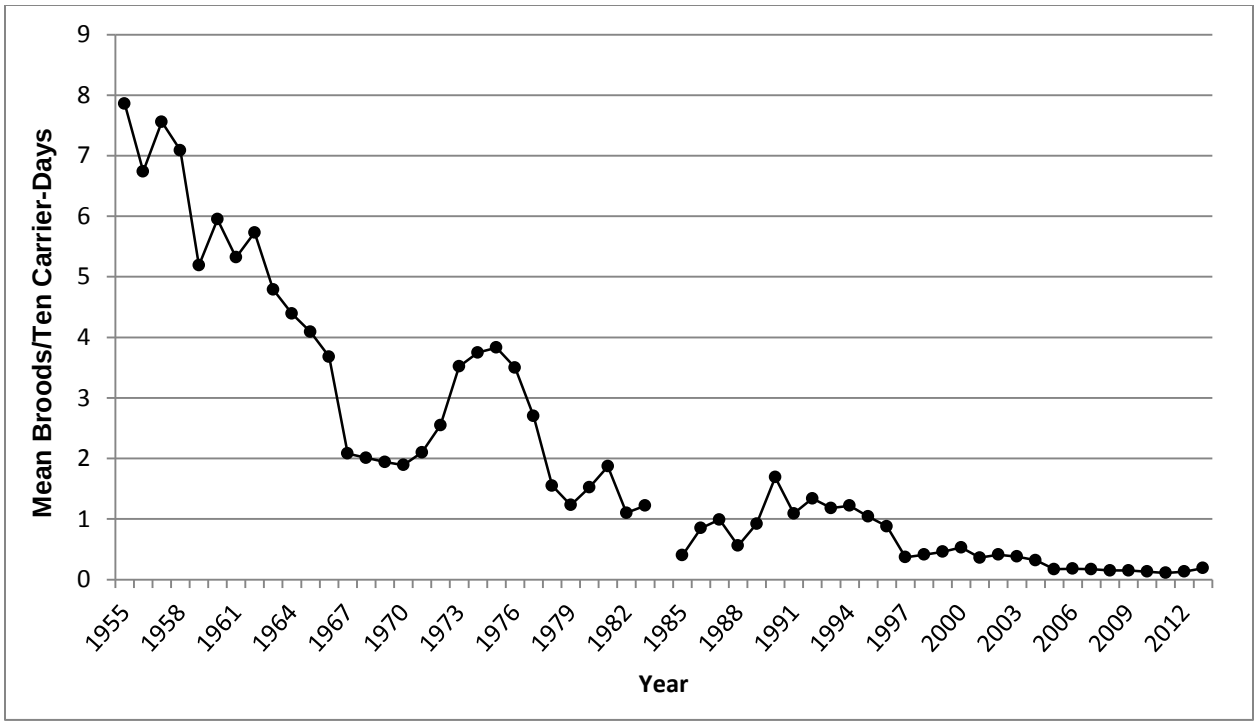
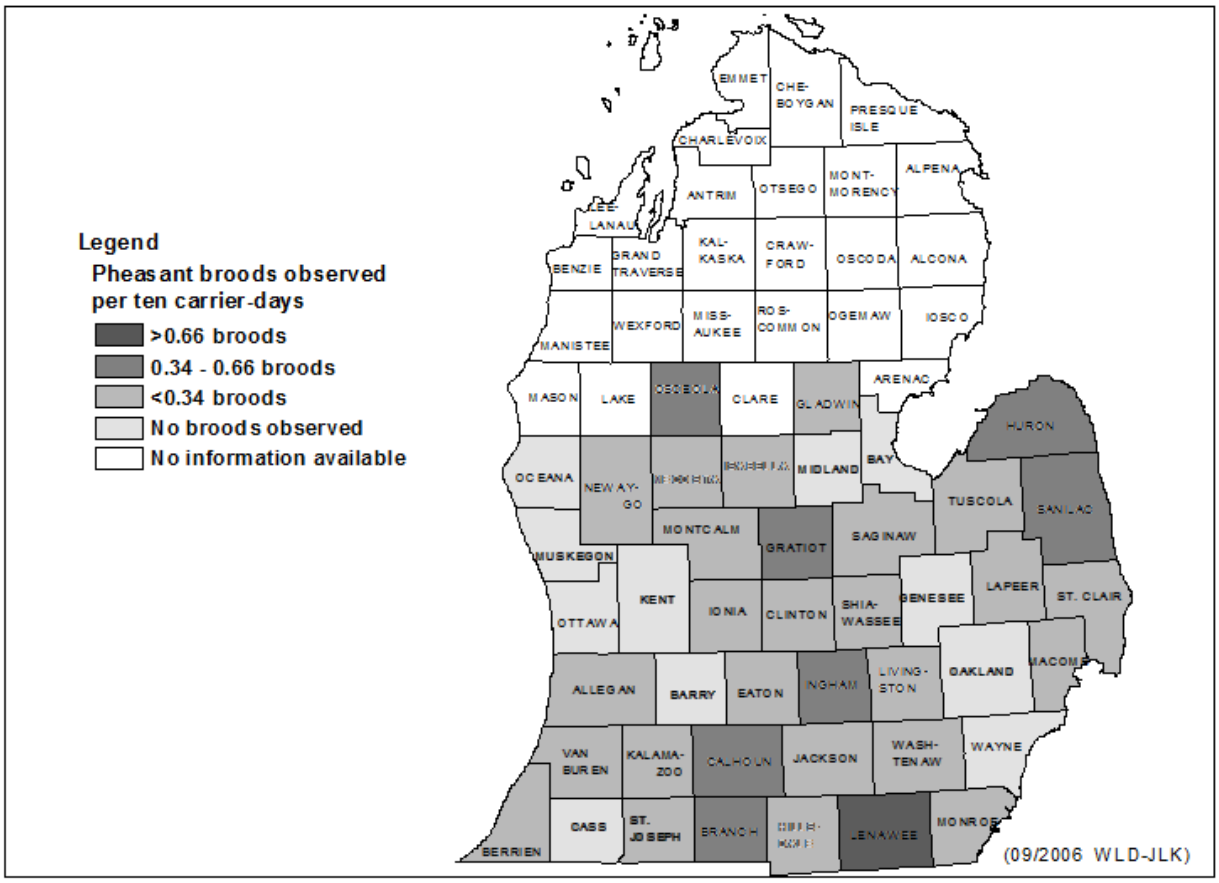
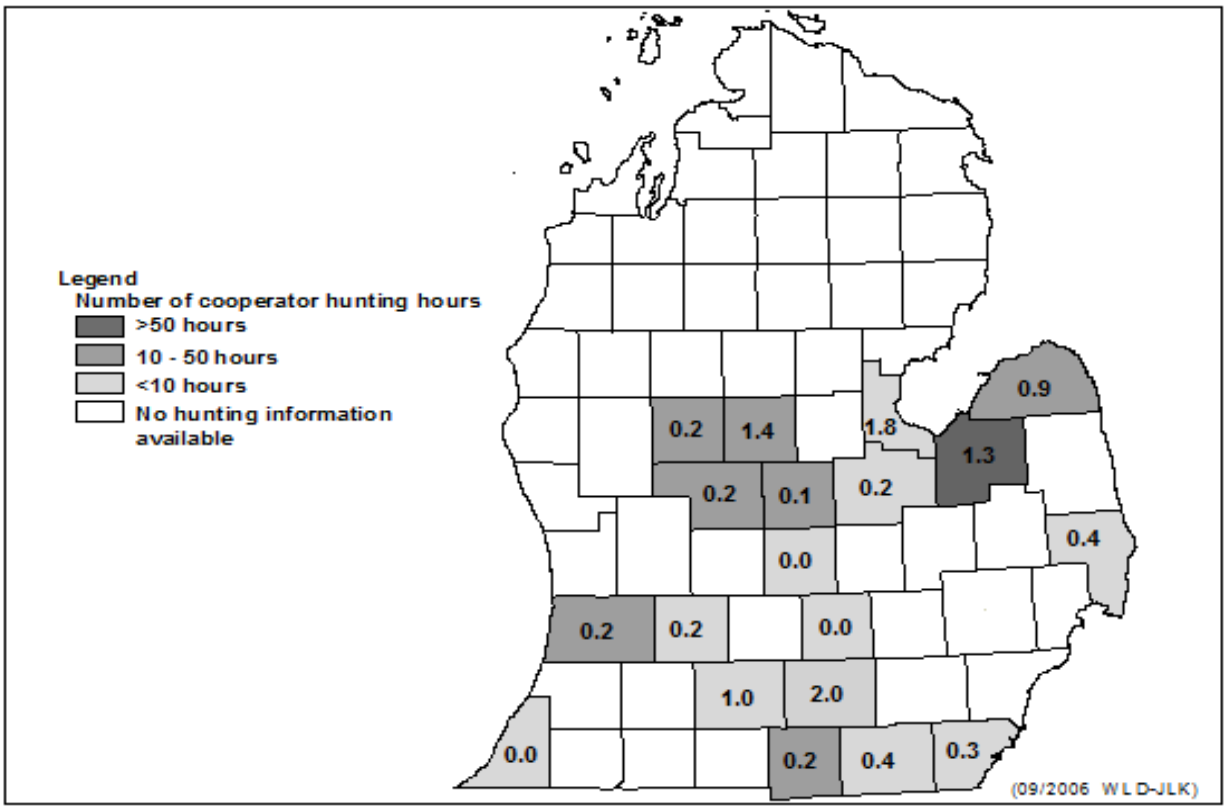


Figure 1. Pheasants brood indices in Michigan, 1955-2013.



Appendix A. Mail carrier pheasant brood indices for Michigan counties, 2013



Appendix B. Average Number of rooster pheasants flushed per hour by cooperators (numbers) and Number of hunter hours (Shading), 2012